

## CLAIMS

What is claimed is:

1. A self-metering automatic industrial-scale fire fighting nozzle, comprising:
  - an additive passageway in fluid communication with a fire-fighting liquid conduit
  - 5 of the nozzle, the conduit having a discharge orifice that varies in size with supply pressure of the liquid, at least for part of a flow range of the nozzle; and
  - structural elements defining a variable opening associated with the additive passageway, the elements structured in combination to automatically vary the opening size in response to variations in size of the discharge orifice.
- 10 2. A self-metering automatic industrial-scale fire fighting nozzle, comprising:
  - an additive passageway in fluid communication with a fire-fighting liquid conduit of the nozzle, the conduit having a discharge orifice that varies in size with supply pressure of the liquid, at least for part of a flow range of the nozzle; and
  - a valve associated with the additive passageway, the valve structured to
  - 15 automatically vary in accordance with variations of the discharge orifice size.
3. A self-metering automatic industrial-scale fire fighting nozzle, comprising:
  - an additive passageway in fluid communication with a fire-fighting liquid conduit of the nozzle, the conduit having a discharge orifice that varies in size with supply pressure of the liquid, at least for part of a flow range of the nozzle; and
  - 20 means for variably occluding the additive passageway in conjunction with variations of the discharge orifice size.
4. A self-metering automatic industrial-scale fire fighting nozzle, comprising:
  - an additive passageway in fluid communication with a fire-fighting liquid conduit of the nozzle, the conduit having a discharge orifice that varies in size with supply
  - 25 pressure of the liquid, at least for part of a flow range of the nozzle; and
  - an adjustable opening in the additive passageway calibrated to automatically adjust in response to variations of the discharge orifice size.
5. The nozzle of claim 1 including a ratio selector having at least two settings and wherein the structural elements vary the opening in response to a selector setting.

6. The nozzle of claim 2 including a ratio selector having at least two settings and wherein the valve varies the opening in response to a selector setting.

7. The nozzle of claim 3 including a ratio selector having at least two settings and wherein the means include means for occluding in response to a selector setting.

5 8. The nozzle of claim 4 including a ratio selector having at least two settings and wherein the opening is calibrated to adjust in response to a selector setting.

9. The nozzle of claims 1, 2, 3, 4, 5, 6, 7 or 8 including:

at least two gap defining elements that relatively adjust to define the discharge orifice of the nozzle; and

10 flow indicator structure that adjusts in tandem with a gap defining element adjustment, the flow indicator structure connected to a visible calibrated indicia of flow.

15. A method, comprising:

15 automatically metering a preselected ratio of additive into an automatic (pressure regulating, at least in part) industrial-scale fire fighting nozzle, including adjusting at least one occluding element in an additive passageway in fluid communication with a fire fighting liquid conduit of the nozzle in accordance with a varying fire fighting liquid conduit discharge orifice.

16. A method, comprising:

20 automatically metering a preselected ratio of additive into an automatic (pressure regulating, at least in part) industrial-scale fire fighting nozzle, including occluding an additive passageway in fluid communication with a fire fighting liquid conduit of the nozzle in accordance with a varying fire fighting liquid conduit discharge orifice.

17. A method, comprising:

25 automatically metering a preselected ratio of additive into a self-educing automatic (pressure regulating, at least in part) industrial-scale fire fighting nozzle, including, in a passageway for additive located inside of the nozzle body, valving the passageway in tandem with a varying fire fighting liquid conduit discharge orifice.

18. The method of claims 15, 16 or 17 that includes selecting between a plurality of  
30 additive ratios for the automatic metering.

19. The method of claims 15, 16 or 17 that includes mechanically linking a visible indication of flow rate of fire fighting liquid through the nozzle with the varying fire fighting liquid conduit discharge orifice.